

[0111] Many modifications and other embodiments of the inventions set forth herein will come to mind to one skilled in the art to which these inventions pertain having the benefit of the teachings presented in the foregoing descriptions and the associated drawings. Therefore, it is to be understood that the embodiments of the invention are not to be limited to the specific embodiments disclosed and that modifications and other embodiments are intended to be included within the scope of the appended claims. Moreover, although the foregoing descriptions and the associated drawings describe example embodiments in the context of certain example combinations of elements and/or functions, it should be appreciated that different combinations of elements and/or functions may be provided by alternative embodiments without departing from the scope of the appended claims. In this regard, for example, different combinations of elements and/or functions other than those explicitly described above are also contemplated as may be set forth in some of the appended claims. Although specific terms are employed herein, they are used in a generic and descriptive sense only and not for purposes of limitation.

1-81. (canceled)

82. An apparatus comprising:

at least one processor; and
at least one memory comprising computer program code, the at least one memory and the computer program code configured to, with the at least one processor, cause the apparatus to at least:
determine a general trust level for one or more users;
generate a public encryption key and one or more personalized decryption secret key for the one or more users based on the general trust levels of the one or more users; and
cause the public encryption key and the one or more personalized decryption secret keys to be issued to the one or more users.

83. An apparatus according to claim 82, wherein the at least one memory comprising the computer program code is further configured to, with the at least one processor, cause the apparatus to:

determine whether at least one of the public encryption key and the personalized decryption secret key has expired;
cause the general trust level for the one or more users to be updated; and
cause the public encryption key and the personalized decryption secret key to be regenerated and issued to the one or more users based on the general trust level.

84. An apparatus according to claim 82, wherein the at least one memory comprising the computer program code is further configured to, with the at least one processor, cause the apparatus to:

receive a request from a user of the one or more users to be removed; and
cause the user to be removed from a list of users identified not to receive a regenerated public encryption key and personalized decryption secret key.

85. An apparatus according to claim 82, wherein at least one of the public encryption key or the personalized decryption secret key is provided for at least one of general trust levels.

86. An apparatus according to claim 82, wherein the one or more users are configured to encrypt a message using the encryption public key based on preferred access control conditions and are further configured to decrypt a message using

the personalized secret keys issued by the trusted server in an instance in which an access control conditions is satisfied.

87. An apparatus comprising:

at least one processor; and
at least one memory comprising computer program code, the at least one memory and the computer program code configured to, with the at least one processor, cause the apparatus to at least:
receive a request for a key from one or more users;
generate a public encryption key and one or more personalized decryption secret keys based on local trust levels for the one or more users; and
cause the one or more personalized decryption secret keys to be issued to one or more users in an instance in which the one or more users satisfy the local trust level for decryption; and
cause encrypted data to be broadcast to one or more users, wherein the encrypted data is configured to be decrypted by the one or more users that satisfy the local trust level using the one or more personalized decryption secret keys.

88. An apparatus according to claim 87, wherein the at least one memory comprising the computer program code is further configured to, with the at least one processor, cause the apparatus to:

cause encrypted data to be broadcast to one or more users, wherein the one or more users are configured to check an access policy and determine if local trust level based control is applied.

89. An apparatus according to claim 87, wherein the at least one memory comprising the computer program code is further configured to, with the at least one processor, cause the apparatus to:

determine whether the local trust level has been modified for the one or more users;
regenerate the public encryption key and the personalized decryption secret keys in an instance in which the local trust level has been modified; and
cause the personalized decryption secret keys to be issued to the one or more users.

90. An apparatus according to claim 87, wherein the at least one memory comprising the computer program code is further configured to, with the at least one processor, cause the apparatus to:

determine whether at least one of the public encryption key and the personalized decryption secret key has expired;
cause the local trust level for the one or more users to be updated; and
cause the public encryption key and the one or more personalized decryption secret keys to be regenerated and the one or more personalized decryption secret keys to be issued to the one or more users based on the local trust level.

91. An apparatus according to claim 87, wherein the public encryption key comprises a public key of attribute local trust (PK_(LT, u)) and the personalized decryption secret key comprises a secret key of attribute local trust of user u' issued by user u (SK_(LT, u, u')).

92. An apparatus according to claim 91, wherein the at least one memory comprising the computer program code is further configured to, with the at least one processor, cause the apparatus to:

cause encrypted data to be transmitted to a user of the one or more users having the local trust level for decryption,